

*CLAIM AMENDMENTS*

1. (Currently Amended) A frequency measuring apparatus comprising:  
a voltage measuring part for measuring the voltage of an electric power system at timings which are obtained by equally dividing one period of a reference wave by  $4N$  ( $N$  being a positive integer);  
a chord length calculation part for calculating, at each of ~~said~~  $(4N + 1)$  timings, voltage vectors directed to points represented by complex numbers on a complex plane, each complex number consisting of a real part, which is one of ~~said the~~ voltages measured at a first timing comprising any of ~~said the~~  $(4N + 1)$  timings, and an imaginary part, which is a voltage measured at a second timing delayed by 90 electrical degrees from ~~said the~~ first timing, ~~said the~~ chord length calculation part further calculating, at each of ~~said the~~  $(4N + 1)$  timings, the length of a ~~cord~~ chord connecting ~~between~~ a tip end of one of ~~said the~~ voltage vectors calculated at a third timing, comprising any of ~~said the~~  $(4N + 1)$  timings ~~and, to~~ a tip end of another of ~~said the~~ voltage vectors calculated at the last timing before ~~said the~~ third timing;  
a voltage root-mean-square value calculation part for calculating, at a fourth timing comprising each of ~~said the~~  $(4N + 1)$  timings, a voltage root-mean-square value from those of ~~said the~~ voltages which are measured at past  $4N$  timings, from ~~said the~~ fourth timing and at ~~said the~~ fourth timing;  
a rotational phase angle calculation part for summing, at a fifth timing, comprising each of ~~said the~~  $(4N + 1)$  timings, those of ~~said-cord the chord~~ the chord lengths which have been obtained at past  $4N$  timings from ~~said the~~ fifth timing and at ~~said the~~ fifth timing, and calculating, based on a ~~total~~ sum of ~~said-cord the chord~~ the chord lengths and ~~said the~~ voltage root-mean-square value, a phase angle between one of ~~said the~~ voltage vectors calculated at a sixth timing comprising any of ~~said the~~ timings and another voltage vector calculated at a timing preceding ~~said the~~ sixth timing by one period of said reference wave; and  
a frequency calculation part for calculating the frequency of ~~said the~~ electric power system from ~~said the~~ phase angle thus calculated.

2. (Currently Amended) The frequency measuring device as set forth in claim 1, further comprising a root-mean-square value voltage averaging part for averaging, at each of ~~said the~~  $(4N + 1)$  timings, ~~said the~~ calculated voltage root-mean-square value and at least one of those voltage root-mean-square values which have been calculated before the calculation of ~~said the~~ voltage root-mean-square value, to provide a voltage root-mean-square value.

3. (Currently Amended) The frequency measuring device as set forth in claim 1, further comprising a frequency averaging part for averaging, at each of ~~said the~~ (4N + 1) timings, ~~said the~~ calculated frequency and at least one of frequencies of ~~said the~~ electric power system which have been calculated before the calculation of ~~said the~~ frequency, to provide the frequency of ~~said the~~ electric power system.

4. (Currently Amended) The frequency measuring device as set forth in claim 1, ~~wherein either~~ including one of a power system frequency stabilization control apparatus, a generator frequency protective apparatus ~~or, and~~ a power distribution system dispersed power source individual operation preventive apparatus ~~is provided with said frequency measuring device.~~